

## COSTA RICAN CLIMATOLOGICAL DATA.

Communicated by Mr. H. PITTIER, Director, Physico-Geographic Institute.

TABLE 1.—Hourly observations at the Observatory, San José de Costa Rica, during October, 1904.

Hours.	Pressure.		Temperature.		Relative humidity.		Rainfall.		Stations.	
	Observed, 1904.		Normal, 1889-1903.		Observed, 1904.		Normal, 1889-1903.			
	Observed, 1904.	Normal, 1889-1903.	Observed, 1904.	Normal, 1889-1903.	Observed, 1904.	Normal, 1889-1903.	Duration, 1904.			
1 a. m.	Inches.	Inches.	° F.	° F.	%	Ins.	Ins.	Hrs.		
1 a. m.	26.13	26.12	62.9	63.2	96	95	0.12	0.14	1.17	
2 a. m.	26.11	26.11	62.4	63.0	96	95	0.08	0.12	2.35	
3 a. m.	26.10	26.09	62.1	63.2	95	95	0.08	0.10	2.50	
4 a. m.	26.09	26.09	61.9	62.2	94	95	0.11	0.07	1.67	
5 a. m.	26.09	26.09	61.5	62.1	95	95	0.01	0.06	0.33	
6 a. m.	26.10	26.11	61.5	61.6	95	95	.....	0.06		
7 a. m.	26.11	26.12	61.7	62.2	93	93	.....	0.07		
8 a. m.	26.12	26.13	64.5	62.2	85	86	.....	0.07		
9 a. m.	26.13	26.15	68.7	68.4	77	79	.....	0.05		
10 a. m.	26.14	26.15	72.6	72.9	71	73	.....	0.05		
11 a. m.	26.15	26.15	74.6	75.4	67	69	.....	0.05		
Noon	26.11	26.13	76.0	76.5	64	69	0.02	0.09	0.67	
1 p. m.	26.09	26.10	75.2	76.2	70	71	0.08	0.28	0.50	
2 p. m.	26.07	26.08	75.1	75.0	70	73	0.08	0.68	0.58	
3 p. m.	26.06	26.07	73.1	73.0	74	77	1.15	1.47	4.83	
4 p. m.	26.05	26.06	70.9	70.6	82	83	1.49	1.47	6.93	
5 p. m.	26.06	26.07	69.2	68.6	87	87	1.35	2.09	6.66	
6 p. m.	26.08	26.09	66.9	67.1	30	39	0.74	1.83	7.00	
7 p. m.	26.09	26.10	65.8	66.0	91	93	0.50	1.61	8.44	
8 p. m.	26.11	26.13	65.2	65.4	93	93	0.81	0.89	9.33	
9 p. m.	26.13	26.14	64.6	65.0	93	93	0.62	0.57	9.91	
10 p. m.	26.14	26.15	64.1	64.7	93	94	0.52	0.45	7.67	
11 p. m.	26.14	26.15	63.8	64.1	93	94	0.13	0.32	2.50	
Midnight	26.14	26.14	63.2	63.5	95	94	0.10	0.20	4.00	
Mean	26.11	26.11	67.0	67.2	86	87	.....	.....		
Minimum	26.02	25.97	57.2	56.1	41	.....	.....	.....		
Maximum	26.24	26.22	84.0	84.7	100	.....	.....	.....		
Total	.....	.....	.....	.....	7.99	12.79	77.04	.....		

REMARKS.—At San José the barometer is 3,835 feet above sea level. Readings are corrected for gravity, temperature, and instrumental error. The hourly readings for pressure, and wet and dry bulb thermometers, are obtained by means of Richard registering instruments, checked by direct observations every three hours from 7 a. m. to 10 p. m. The thermometers are 5 feet above ground and are corrected for instrumental errors. The total hourly rainfall is as given by Hottinger's self-register, checked once a day. Under maximum, the greatest hourly rainfall for the month is given. The standard rain gage is 5 feet above ground. Since January 1, 1902, observations at San José have been made on seventy-fifth meridian time, which is 0 hours, 36 minutes, 13.3 seconds in advance of San José local time. The normals for pressure, temperature, and relative humidity have been adjusted to this time; the normal for rainfall in Table 1 and the sunshine observations and normal in Table 2 refer to local time. At Port Limón the hours of direct observation are 8 a. m., 2 and 8 p. m., San José local time; the barometer is 14 feet above sea level. The means for temperature and relative humidity in Table 4 are obtained from two-hourly readings given by a Richard self-registering thermometer.

TABLE 2.—San José, October, 1904.

Time.	Sunshine.		Cloudiness.		Temperature of the soil at depth of—					Divisions.	
	Observed,	Normal,	Observed,	Normal,	6 inches.	12 inches.	24 inches.	48 inches.	120 inches.		
7 a. m.	Hours.	Hours.	%	%	° F.	° F.	° F.	° F.	° F.	Per cent.	
7 a. m.	4.97	6.59	65	60	68.9	70.6	71.4	70.8	.....	25	
8 a. m.	18.63	18.51	.....	.....	.....	.....	.....	.....	.....	22	
9 a. m.	21.00	24.53	.....	.....	.....	.....	.....	.....	.....	26	
10 a. m.	20.51	21.45	67	65	71.5	70.4	71.4	72.0	.....	27	
11 a. m.	19.01	19.17	.....	.....	.....	.....	.....	.....	.....	36	
Noon	17.71	14.62	.....	.....	.....	.....	.....	.....	.....	100	
1 p. m.	12.39	11.72	89	83	71.1	70.8	71.4	70.7	.....	139	
2 p. m.	13.85	11.09	.....	.....	.....	.....	.....	.....	.....	16.58	
3 p. m.	11.42	8.30	.....	.....	.....	.....	.....	.....	.....	11.34	
4 p. m.	9.10	4.90	91	93	71.5	71.1	71.4	70.8	.....		
5 p. m.	3.50	1.87	.....	.....	.....	.....	.....	.....	.....		
6 p. m.	0.17	0.47	.....	.....	.....	.....	.....	.....	.....		
7 p. m.	.....	.....	89	92	71.2	71.2	71.5	70.8	.....		
8 p. m.	.....	.....	.....	.....	.....	.....	.....	.....	.....		
9 p. m.	.....	.....	73	79	71.2	70.9	71.5	70.8	.....		
10 p. m.	.....	.....	.....	.....	.....	.....	.....	.....	.....		
11 p. m.	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Midnight	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Mean	.....	.....	79	79	70.9	70.9	71.4	70.8	.....		
Total	152.26	140.22	.....	.....	.....	.....	.....	.....	.....		

TABLE 3.—Rainfall at stations in Costa Rica, October, 1904.

Stations.	Observed, 1904.		Averages.	
	Height above sea level.	Amount.	Number of years.	Amount.
Sipurio (Talamancas)	197	4	7.76	19
Boca Baubao	10	8	5.75	19
Baresemt Farm	1	1.42	18	
Port Limón	10	5.20	17	4.49
Coro Farm	3	3.66	12	
Swamp Mouth	10	6	7.60	10
Zent	66	3.98	20	9.53
Victoria	197	6	7.68	10
Siquirres	197	11.50	17	
Colombiana	984	10.59	24	17.76
Guapiles	528	7.40	17	17.09
San Carlos	873	.....	4	12.64
Las Lomas	1,089	.....	6	12.13
Peralta	2,034	0.71	19	9.25
Turrialba	3,412	.....	8	10.43
Juan Viñas	3,609	.....	3	8.31
Santiago	3,348	5.22	22	7.20
Cachi	4,383	.....	3	7.92
Paraiso	4,761	.....	13	
Cartago	4,265	7.72	20	15.39
Tres Ríos	3,894	10.43	23	12.48
San Francisco Guadalupe	3,806	7.99	23	14.06
San José	3,740	11.18	26	14.13
La Verbenia	2,505	9.53	18	10.04
Nuestro Amo	3,117	.....	4	15.75
Alajuela	4,416	10.98	23	21.54
San Isidro Alajuela	16.77	15	.....	
Puntarenas	2,559	16.02	20	
Las Cañas	.....	.....	.....	

Notes on earthquakes.—October 14, 10<sup>h</sup> 15<sup>m</sup> p. m., slight shock N.-S., duration 2 seconds, intensity I; also 11<sup>h</sup> 25<sup>m</sup> p. m., strong shock NW.-SE., duration 10 second, intensity IV. October 12 several slight shocks between 0 and 6<sup>h</sup> a. m. October 19, 7<sup>h</sup> 14<sup>m</sup> p. m. very sensible shock N.-S., duration 8 seconds, intensity III.

## CLIMATOLOGICAL DATA FOR JAMAICA.

Through the kindness of Mr. H. H. Cousins, chemist to the government of Jamaica and now in charge of the meteorological service of that island, we have received the following table in advance of the regular monthly weather report for Jamaica:

Comparative table of rainfall for October, 1904.

(Based upon the average stations only.)

Divisions.	Relative area.	Number of stations.	Rainfall.	
			1904.	Average.
Northeastern division	Per cent.	25	19.38	14.01
Northern division	22	52	9.42	8.01
West-central division	26	26	19.41	12.63
Southern division	27	36	18.12	10.50
Means	100	139	16.58	11.34

The rainfall for October was, therefore, very much above the average for the whole island. The greatest rainfall, 44.28 inches occurred at Hill gardens, in the northeastern division, while, 5.07 inches fell at Negril Point Light House in the southern division.